

REMARKS

Overview

The Examiner responded in the prior Office Action as follows: rejected claims 1, 6-11, 16, 19, 24-28, 31-32, and 37-41 under 35 U.S.C. 102(b) as being anticipated by Chevion et al (U.S. Pat. No. 5,455,875); rejected claims 1-8, 10-11, 13, 15, 17-18, 19-26, 28, 30-39, 41, 43, and 45 under 35 U.S.C. 102(e) as being anticipated by Meier et al (U.S. Publication No. 2002/0083079); rejected claims 12-14, 29, and 42-44 under 35 U.S.C. 103(a) as being unpatentable over Chevion in view of Lyons (U.S. Pat. No. 6,181,343); rejected claims 15, 17-18, 30, and 45 under 35 U.S.C. 103(a) as being unpatentable over Chevion in view of Meier; and objected to informalities in the specification.

Applicants hereby amend claims 1-6, 10, 13-14, 16, 19-21, 24, 28, 32-34, and 37-42 in order to clarify the subject matter of their invention, and further hereby add new claims 46-55. Thus, claims 1-55 are pending. Applicants have also amended the specification to address the informalities identified by the Examiner.

Discussion

The Examiner has rejected each of the previously pending claims 1-45 under 35 U.S.C. §§ 102 or 103 as being unpatentable over Chevion or Meier, either alone or in combination with each other or with Lyons. However, each of the independent claims 1, 19, and 32 as amended includes features and provides functionality not disclosed by Chevion and Meier, whether alone or in combination with Lyons or each other, and thus is allowable over those references.

Each of the independent claims 1, 19 and 32 is generally related to a computing system that distributes sub-tasks to various humans for performance so that the humans may assist the computing system in performance of a higher-level task, such as to distribute sub-tasks at which humans are particularly adept (*e.g.*, comparison of images) among numerous remote humans that are available to assist in the task performance. Furthermore, each of the independent claims 1, 19 and 32 as amended further generally recites an automated process for selecting among available humans so as to identify and use those who have specific capabilities or qualities that

are appropriate for a sub-task to be performed. For example, independent claim 1 as amended recites “automatically and under control of a first computer system, causing a task to be performed by ... identifying one or more required capabilities of a human for performance of the first subtask [of a task]” and “dispatching the first subtask to a remote second computer system of a first human for performance by said first human, the first human identified as being one of one or more humans who have capabilities that satisfy the required capabilities for the first subtask”. Identifying and using such required capabilities or other qualities of humans allows appropriate humans to be used for performance of a subtask, thus providing results of higher quality and accuracy – for example, the application provides an illustrative example of a subtask to be performed by at least 10 French-speaking humans with a past accuracy record of at least 90%, such as to obtain a high-accuracy French text segment resulting from a majority of those humans producing that text as part of a speech-to-text subtask. New dependent claims 53-55 recite further claim elements related to the required capabilities of the human, such as that the required capabilities “include an ability to speak a specified language”, “include an ability to hear”, or “include a specified degree of historical accuracy by the human when performing subtasks”, and new dependent claims 46-50 recite further claim elements related to the dispatching of tasks between the first computer system and one or more remote humans.

Conversely, none of the cited references appear to include any teaching or suggestion of using specific capabilities or qualities of humans that are needed or appropriate for particular subtasks, or of distributing subtasks to computer systems of remote humans, such as to select among numerous available distributed humans. Instead, Chevion merely discusses a single computing system that performs optical character recognition (“OCR”) of scanned images to generate corresponding character data, and that prompts a user of that computing system to interactively correct erroneous generated character data. Such interactions of a computing system with its local user are well-known in the prior art, and are similar to the prior art spell-checking activities discussed in the Background section of Applicants’ application, but fail to provide any teaching, suggestion, or motivation for identifying one or more required capabilities of a human for performance of a subtask and for sending a subtask to one or more remote humans who are selected for performance of the subtask. For at least these reasons, Chevion

does not suggest or motivate the recited claim elements of claim 1 as amended, and claim 1 is allowable over Chevion. Similarly, independent claims 19 and 32 as amended recite similar claim elements to those of claim 1, and thus are allowable over Chevion for at least the same reasons, as are the claims that depend from claims 1, 19, and 32.

Moreover, neither Meier nor Lyons correct these deficiencies of Chevion. As a threshold issue, Applicants note that the Meier application was filed subsequent to Applicants' application, and thus is not an effective prior art reference except to the extent that Meier's earlier-filed provisional application discloses the same subject matter. While the Examiner has not provided any indication of such support in the earlier-filed Meier provisional application, Applicants will nonetheless assume for the purposes of this response that Meier is effective prior art, although Applicants reserve the right to disqualify Meier as effective prior art due to the lack of such support if the Examiner maintains this rejection. Regardless, Meier appears to lack any teaching or suggestion of using specific capabilities or qualities of humans that are needed or appropriate for particular subtasks, or of distributing subtasks to computer systems of remote humans, such as to select among numerous distributed humans. In particular, the portions of Meier referenced by the Examiner are analogous to those of Chevion, and involve a computing system that performs OCR of scanned text and that has a text correction phase in which a local user may correct errors. While Meier does appear to discuss that documents may later be accessed over a network, this document access is unrelated to dispatching subtasks to remote humans for performance. Thus, for at least these reasons, Meier similarly does not suggest or motivate the recited claim elements of claim 1 as amended, and claim 1 is allowable over Meier, as are independent claims 19 and 32 and the claims that depend from claims 1, 19, and 32.

Finally, Lyons also appears to lack any teaching or suggestion of using specific capabilities or qualities of humans that are needed or appropriate for particular subtasks, or of distributing subtasks to computer systems of remote humans, such as to select among numerous distributed humans. The Examiner has appeared to cite Lyons on the basis that the Lyons system may observe the movements of multiple people and determine how to respond based on similarities among multiple of those people. This functionality appears irrelevant to the performance of computer-distributed tasks among remote humans, and Lyons appears to lack

any teaching or suggestion of using specific capabilities or qualities of humans for performance of particular subtasks or of distributing subtasks to remote humans for performance. Thus, for at least these reasons, independent claims 1, 19 and 32 as amended are allowable over Lyons, as are the claims that depend from those claims.

The pending dependent claims include the features of those claims from which they depend, and are thus allowable for the same reasons as those claims. Furthermore, various of the pending dependent claims also recite additional features lacking in the cited references and are further allowable for those reasons as well. For example, dependent claims 17 and 18 each generally recite that a specific task is associated with a maximum cost-related attribute, such as for use in determining compensation to be paid to humans for performing portions of the task. These maximum cost attributes are useful, for example, because they enable the system to make decisions based upon the required compensation level available for the performance of a task. Chevion and Lyon appear to lack any reference to such cost-related attributes, and while Meier includes a general cost comparison analysis related to performing document management, the costs discussed are not associated with a specific task as attributes in the manner claimed, as well as being unrelated to compensation for performing tasks. Thus, claims 17 and 18 are further allowable over the cited references for at least this reason. Similarly, claim 10 as amended generally recites that the task is associated with multiple of various types of attributes and that the automated performance of the task is performed so as to reflect the multiple associated attributes, claim 16 as amended recites that "the dispatching of the first subtask to the remote second computer system of the first human includes notifying the first human of the specified maximum amount of time to be spent", with the maximum amount of time being an attribute associated with the task, and claims 11-15 generally recite other types of attributes associated with the task and/or the use of such other attributes. Since the cited prior art references fail to suggest or motivate any such attributes associated with tasks and used for task performance, each of these claims is similarly allowable over the cited references for at least these reasons.

As another example, previously pending dependent claims 13 and 43 generally recite the tracking of human accuracy in the performance of a subtask, which as previously discussed is an example of information that may be used in identifying appropriate humans to perform a task.

While Chevion and Meier may make some determination of confidence in their automated OCR processing, they appear to lack any teaching, suggestion, or motivation for tracking the accuracy of humans when they perform their corrective activities, nor do they include any teaching regarding how such tracking of human activities would be relevant or used within their systems. Thus, claims 13 and 43 are both patentable over the cited references for at least this reason as well. Other of the previously pending dependent claims similarly recite additional features lacking in the cited references, but are not enumerated here for the sake of brevity.

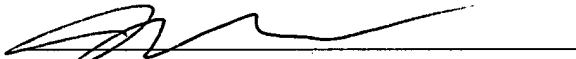
Furthermore, various of the new dependent claims also recite additional features lacking in the cited references, and thus are allowable over those references, such as the following: new claim 46 recites that “the first human is one of numerous humans remote from the task server system who each use distinct client computing devices to act as nodes of the distributed hybrid computer/human computation system”, new claim 47 recites that “the distributed hybrid computer/human computation arrangement further includes one or more distinct coordinating server computing systems remote from the task server system such that the dispatching of the first subtask by the task server system includes sending information to at least one of the coordinating server computing systems that includes an indication of the first subtask and of the identified required capabilities”, new claim 49 recites that “the dispatching by the first computer system of the first subtask to the remote second computer system is performed using a defined application programming interface (“API”)”, new claim 50 recites that “the dispatching by the first computer system of the first subtask to the remote second computer system is performed by programmatically sending one or more messages from the first computer system to the remote second computer system”, new claim 51 recites that “the dispatching by the first computer system of the first subtask to the remote second computer system of the first human includes providing information to the first human of a payment associated with performance of the first subtask if the first human chooses to perform the first subtask”, and pending new claim 52 recites that “after the receiving from the first human of the first result from the performance of the first subtask, providing to the first human a payment associated with the first subtask”. As the cited references appear to lack any suggestion or motivations of these features, the newly added dependent claims similarly are allowable over the cited references.

Conclusion

In light of the above remarks, Applicants respectfully submit that all of the pending claims are allowable. Applicants therefore respectfully request the Examiner to reconsider this application and timely allow all pending claims. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 694-4815.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
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